IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : DeLima et al.
Serial No. : 09/912,570
Filed : July 24, 2001
Title : DYNAMIC HTTP LOAD BALANCING METHOD AND
   APPARATUS
Attorney Docket : RSW920000124US1 (IBM012PA)
Examiner : H. Phillips
Art Unit : 2151

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION OF PRIOR INVENTION IN THE UNITED STATES TO OVERCOME
CITED PATENT APPLICATION (37 C.F.R. §1.131)

We, Roberto DeLima and Craig A. Lanzen, declare as follows:

1. We are the inventors of the invention entitled DYNAMIC HTTP LOAD BALANCING
METHOD AND APPARATUS, disclosed and claimed in U.S. Patent Application Serial No.
09/912,570 (hereinafter the '570 application), filed July 24, 2001.

2. The invention disclosed and claimed in the '570 application was conceived by us in the
United States, at a date prior to March 6, 2001, which is the filing date and 35 U.S.C. §102(e)
prior art date of U.S. Pat. Pub. No. 2002/0129127 to Romero et al. (hereinafter, "*Romero*").

3. In a non-final office action dated December 04, 2006, claims 1, 3-6, 8, 10-12, 17, 18, 21
and 22 were rejected under 35 U.S.C. §102(e) as being anticipated by *Romero*. Further,
claims 9, 14, 19 and 23 were rejected under 35 U.S.C. §103(a) as being obvious in view of
Romero.

4. We believe that we and our patent attorneys were diligent just prior to the March 6, 2001 filing date of *Romero* until the filing date of our application on July 24, 2001 based upon at least the following:

Prior to March 6, 2001, we submitted an IBM Invention Disclosure, identified as IBM RSW8-2000-0139, entitled "Dynamic HTTP Load Balancing Configuration", which is attached hereto as exhibit A (6 pages). Portions of this exhibit showing certain dates and non-relevant information have been redacted.

On September 05, 2000, Jeanine S. Ray-Yarletts, in-house counsel for IBM, the assignee of the subject application, sent a letter to Mark D. Simpson, Esq., of Synnestvedt & Lechner, LLP requesting the preparation of a patent application, assigned IBM Docket number RSW9-2000-0124-US1, which is attached hereto as exhibit B (1 page). The application, assigned IBM Docket number RSW9-2000-0124-US1 is based on invention disclosure RSW8-2000-0139 entitled "Dynamic HTTP Load Balancing Configuration", which was identified as exhibit A.

On September 11, 2000, Mark D. Simpson sent a letter to Jeanine S. Ray-Yarletts acknowledging authorization to prepare a patent application based upon IBM's Docket number RSW9-2000-0124-US1 (corresponding to invention disclosure RSW8-2000-0139), which is attached hereto as exhibit C (1 page).

From at least September 27, 2000, Mark D. Simpson interacted with inventors Roberto DeLima and Craig A. Lazen with regard to preparing the patent application as illustrated by the representative email threads and corresponding attachments, attached collectively hereto as exhibit D (6 pages).

On May 10, 2001, a draft of the patent application was sent to the inventors. The inventor comments and changes were incorporated into a revised draft of the patent application by June 28, 2001, as evidenced by a letter dated June 28, 2001, from Theodore Naccarella to Jeanine S. Ray-Yarletts, which is attached hereto as exhibit E (2 pages).

On July 05, 2001, Jeanine S. Ray-Yarletts sent an email to Theodore Naccarella authorizing the filing of the present patent application, which is attached hereto as exhibit F (1 page).

5. Evidence to establish a conception date prior to March 6, 2001 for each of the claims can be seen on the sixth page of the IBM invention disclosure RSW8-2000-0139 attached hereto as Exhibit A. In this document, dates have been redacted. However, each of the redacted dates is prior to March 6, 2001. Evidence is further provided in the charts and corresponding descriptive text provided on the second and third pages of the email correspondence from Roberto DeLima to Mark Simpson.

6. As a person summing below:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so many are punishable by fine or imprisonment, or both, under section 1001 of title 18 of the United States code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: Craig A. Lanzen_____

Inventor's signature: /Craig A. Lanzen/_____

Date: 3/2/2007_____

Country of citizenship: United States_____

Post-office address: 3157 Lennox Ct. Lambertville, Michigan 48144_____

Full name of second inventor: Roberto DeLima_____

Inventor's signature: /Roberto DeLima/_____

Date: 3/2/2007_____

Country of citizenship: USA_____

Post-office address: 105 Barnbridge Ct., Cary NC 27519_____

EXHIBIT A (6 PAGES)

Required fields are marked with the asterisk (*) and must be filled in to complete the form .

* Title of disclosure (in English)
Dynamic HTTP Load Balancing configuration

Summary

Status	Final Decision (File)
Final deadline	
Final deadline reason	
Docket family	RSW9-2000-0124
* Processing location	Raleigh - RSW
* Functional area	(RSW) Horn: Technology Group (Kopkind,Lindquist)
Attorney/Patent professional	Jeanine Ray/Raleigh/IBM
Business Area Manager/IDT Lead	
Evaluators	Marcia L Stockton/Raleigh/IBM
Submitted date	REDACTED
* Owning division	AIM
Incentive program	INC9
Lab	
* Technology code	
Patent value tool (PVT) score	

Inventors with a Blue Pages entry
Inventors: Bob Delima/Raleigh/IBM, Craig Lanzen/Raleigh/IBM

Inventor Name	Inventor Serial	Div/Dept	Inventor Phone	Manager Name
> Delima, Bob	790708	7G/AOAA	N/A	Miller, K.E. (Ken)
Lanzen, Craig A.	954099	7G/HLGA	N/A	Shafa, Norman E.

> denotes primary contact

Inventors without a Blue Pages entry

Invention Development Team Information

Attorney/Patent professional	Jeanine Ray/Raleigh/IBM
Business area manager/IDT lead	
Evaluators	Marcia L Stockton/Raleigh/IBM@IBMUS
Other interested parties who may view this disclosure	
Date evaluation response due to IP Law	REDACTED

Main Idea

To view the Main Idea of this disclosure, open the "Main Idea" document from the view
*Critical Questions (Questions 1-9 must be answered in English)

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*Question 1
On what date was the invention workable? REDACTED   Please format the date as MM/DD/YYYY
(Workable means i.e. when you know that your design will solve the problem)

---

*Question 2 Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?	○ Yes ● No

If yes, Enter the name of each publication or patent and the date published below.
Publication/Patent:
  Date Published or Issued:

Are you aware of any publications, products or patents that relate to this invention?	○ Yes ● No

If yes, Enter the name of each publication or patent and the date published below.
Publication/Patent:
  Date Published or Issued:

---

*Question 3 Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?	○ Yes ● No
Is a sale, use in manufacturing, product announcement, or proposal planned?	○ Yes ● No

If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made.
    Product:
Version/Release:
  Code Name:
      Date:
    To Whom:
If more than one, use cut and paste and append as necessary in the field provided.

---

*Question 4 Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMers?	○ Yes ● No
If yes, give a date. Please format the date as MM/DD/YYYY	

---

*Question 5 Have you ever discussed your invention with others not employed at IBM?	○ Yes ● No
If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.	

---

*Question 6 Was the invention, in any way, started or developed under a government contract or project?	○ Yes ● No ○ Not sure
If Yes, enter the contract number	

---

*Question 7

Was the invention made in the course of any alliance, joint development or other contract activities?
If **Yes**, enter the following:

○ Yes
● No
○ Not Sure

Name of Alliance, Contractor or Joint Developer	
Contract ID number	
Relationship contact name	
Relationship contact E-mail	
Relationship contact phone	

---

*Question 8
Have you, or any of the other inventors, submitted this same invention disclosure or similar invention disclosure previously?

○ Yes
● No

If Yes, please provide disclosure number below:

---

*Question 9
Are you, or any of the other inventors, aware of any related inventions disclosures submitted by anyone in IBM previously?

○ Yes
○ No

If Yes, please provide the docket or disclosure number or any other identifying information below:

Question 10
What type of companies do you expect to compete with inventions of this type? *Check all that apply.*

☐ Manufacturers of enterprise servers
☐ Manufacturers of entry servers
☐ Manufacturers of workstations
☐ Manufacturers of PC's
☐ Non-computer manufacturers
☐ Developers of operating systems
☒ Developers of networking software
☐ Developers of application software
☒ Integrated solution providers
☐ Service providers
☐ Other (Please specify below)

Question 11
If the invention relates to a product or service that is outside the scope of your business unit, please recommend IBM business unit(s), IBM location(s) or individual(s) within IBM that you think would provide a good evaluation of your invention:

---

*Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evaluatio...

(The Patent Value tool can be used by the inventor(s) to determine the potential licensing value of your invention.)
Market
*Question 1: What is the anticipated annual market size (in dollars) that will be captured by your invention?

IBM Confidential

Reason(s) for above Answer:

Claims
*Question 1: How new is the technical field?

Reason(s) for above Answer:

*Question 2: How central is the invention to the product(s) which might be expected to contain the invention?

Reason(s) for above Answer:

*Question 3: What is the scope of the claim?

Reason(s) for above Answer:

Portfolio Need
*Question 1: What are the portfolio needs in the area of your invention?

Reason(s) for above Answer:

Exploitation & Enforcement
*Question 1: How easily can the use of the invention by a competitor be detected?

Reason(s) for above Answer:

*Question 2: How easily can the use of the invention be avoided by a competitor?

Reason(s) for above Answer:

Business Value
*Question 1: What percentage of the companies producing products in the field of this invention might use this invention?

Reason(s) for above Answer:

*Question 2: What is the value of this patent to current or anticipated Alliance Activity between IBM and other companies?

Reason(s) for above Answer:

*Question 3: What is the value of this patent to current or anticipated Technology Transfer Activity between IBM and other companies?

Reason(s) for above Answer:

*Question 4: Does it result in prestige to IBM?

Reason(s) for above Answer:

Evaluation

This team evaluation was entered by Marcia Peters/Raleigh/IBM on   REDACTED
What is the team's evaluation of this disclosure?   Search
Date evaluated :   REDACTED
Evaluation comments

IBM Confidential

There were 7 unanimous votes to search.

NOTE: Jim Matthewson suggested an enhancement whereby the WebSphere server does an HTTP POST to a web server on the Edge Server box to notify Edge Server of changes, such as announcing a new WS in the cluster, a change in supported URLs, etc. If this claim is included in the patent, Jim should be listed as a co-inventor.

Final Evaluation History	Who made the final evaluation	Final evaluation date
Search	Marcia Peters/Raleigh/IBM	REDACTED

Search Information

Date sent:	*Target completion date:	Search results received date:
Who was the search sent to (This area is to designate a Local Searcher name or WAIPL):		
*Search type: ☐ Patentability ☐ Clearance ☐ Validity ☐ State of Art		
*Features to be searched:		

Search Office Information
Final Decision
Post Disclosure Text & Drawings

To add additional information related to this disclosure once it has been submitted, click the action button below and a new document will be opened for you to enter the new information. To view existing post disclosure information, double-click on the item in the list below (if there has been additional information entered), and the document will open for you to view.

Date entered   Post disclosure comments and drawings (double-click an item below to view)

Main Idea for Disclosure RSW8-2000-0139
Prepared for and/or by an IBM Attorney - IBM Confidential

Archived On REDACTED

Title of disclosure (in English)
Dynamic HTTP Load Balancing configuration

Main Idea

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.
The most difficult part of end user deployment of an HTTP load balancing solution is the proper configuration of the load balancer. There's an awful lot of room for error. The solution we're proposing is to have the load balancer query a predefined URL from an HTTP server, and have the configuration information returned. This information would then be used to dynamically configure the load balancer to appropriately determine server health. Items returned would include things such as server cookies, URL masks for Content Based Routing, and URLs to query in order to monitor server back-end health.

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?
The complexity of deploying a load balanced web site would be reduced by allowing the HTTP servers to "push out" to the load balancer what resources it would need to know about to in order to effectively balance the load. This avoids the extra steps of requiring in-depth knowledge of the web site in order to properly configure the load balancer, and then the manual, error-prone process of configuring it.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?
The problem has been identified, and configuring the load balancer continues to be a manual process.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.
For Edge Server Version 2.0, IBM Network Dispatcher will be implementing several enhancements to provide better synergy with IBM Websphere Application Server. Among the enhancements are server cookie affinity support, kernel based Content Based Routing, and the enablement of back-end server health monitoring. These Edge Server enhancements will require somewhat complex configuration of Network Dispatcher. Using the dynamic model described above will greatly simplify the deployment of the solution, as the configuration will be automatic and occur under the covers.

IBM

September 5, 2000

Mark D. Simpson, Esq.
Synnestvedt & Lechner LLP
2600 Aramark Tower
1101 Market Street
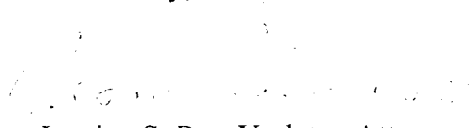Philadelphia, PA 19107

      Re: IBM Docket RSW9-2000-0124-US1

Dear Mark:

      I am forwarding invention disclosure materials for the invention referenced above. This application should be filed by December 15, 2000. I would also like to see copies of the final draft when it goes out to the inventors. For inventor assistance please contact Bob Delima at 919-543-3522.

      Thank you very much for your assistance. If you have questions, please contact me at 919-543-2541, or contact my assistant, Dianne Lane, at 919-543-6383.

                        Yours truly,

                        Jeanine S. Ray-Yarletts, Attorney
                        Intellectual Property Law Department

JSR:dl

enclosure

EXHIBIT C (1 PAGE)

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PAUL SYNNESTVEDT (1897-1950)
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OF COUNSEL
MARTIN F. SAVITZKY

CONFIRMATION

September 11, 2000

Jeanine S. Ray-Yarletts, Esquire
Attorney - Intellectual Property Law
IBM Corporation
3039 Cornwallis Road
P.O. Box 12195
Bldg. 062/T81
Research Triangle Park, NC 27709

FACSIMILE OF 1 PAGE
TO 1 919 254 4330

(Confirmation via First Class Mail)

Re: S&L File No. G22,854

Dear Jeanine:

This is to acknowledge receipt of, and to thank you for, the following case which was received in our office on September 11, 2000.

IBM Docket No.	S&L File No.	Managing Attorney
RSW9-2000-0124- US1	P24,352 USA	Jeanine S. Ray-Yarletts

We have docketed this case for filing on or before December 15, 2000 per your instructions.

Very truly yours,

Mark D. Simpson

MDS/lmw

M:\MSimpson\IBM\24352\Letters\Ray-Yarletts receipt ltr

EXHIBIT D (6 PAGES)

To: Bob Delima/Raleigh/IBM@IBMUS
cc:
Subject: RE: Patent Disclosure Inventor List

Bob:

(1) Reply to this with your home address (including county), full name and citizenship

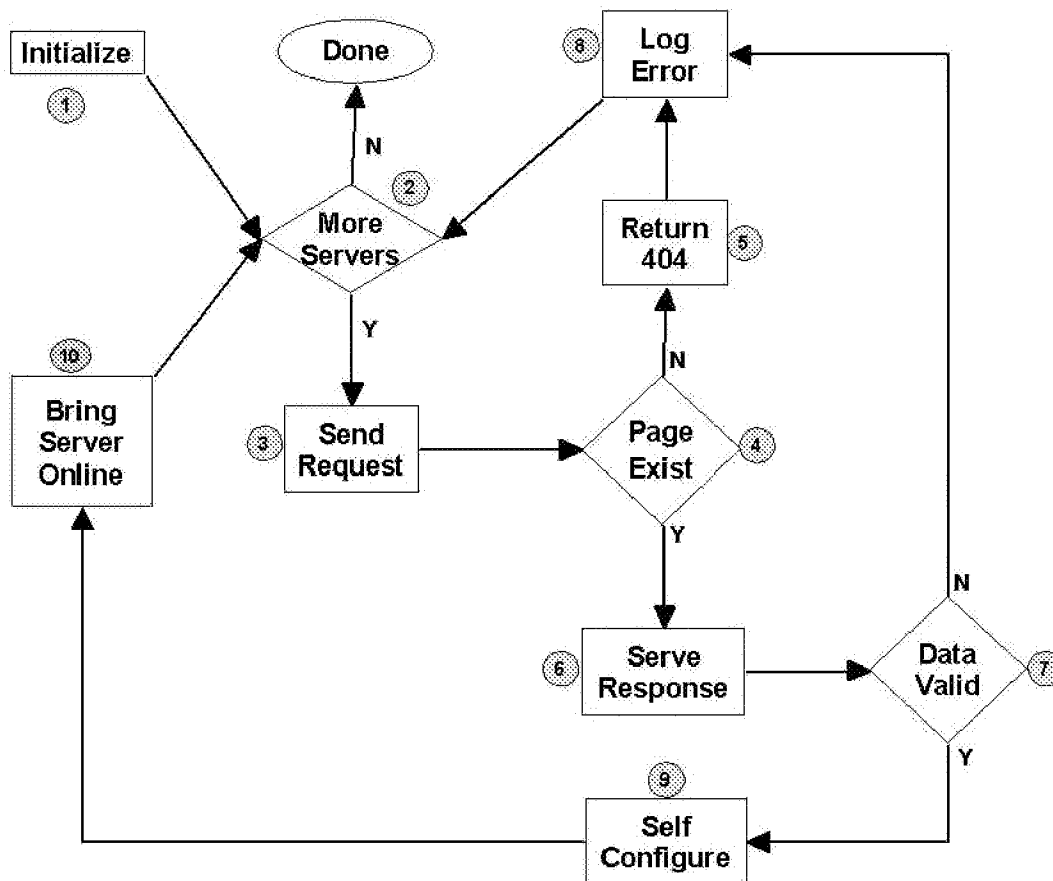(2) J.W. Mathewson II (or III), inventor serial 648444, Manager - Don Boulia (or Boulis)

thanx.

Ted

<<< 1/11/2001 - Email from Bob Delima addressing questions from attorney that were sent 10/27/2000
>>>

To: "Mark D. Simpson" <MSimpson@synntech.com>
cc: Craig Lanzen/Raleigh/IBM @IBMUS
From: Bob Delima/Raleigh/IBM @IBMUS
Subject: Re: Dynamic HTTP Load Balancing Configuration Link

Mark,

Please find attached a simple flow diagram we put together to illustrate the invention. Let me know if you
need something more.

Regards,
Bob

Initialize (1)

Done

Log Error (8)

More Servers (2)
N
Y

Return 404 (5)

Bring Server Online (10)

Send Request (3)

Page Exist (4)
N
Y

Serve Response (6)

Data Valid (7)
N
Y

Self Configure (9)

1. Initialization - Cluster addresses are defined and individual HTTP server addresses are configured at the load-balancing device.

2. Process HTTP Server list - For each HTTP server defined in the list we must gather configuration information. Once all servers have been queried, the process is complete.

3. Issue "GET /_SVR_LB_.CFG HTTP/1.0" to each server requesting the server configuration.

4. The HTTP server responds to the GET request.

5. If the request can not be served, an "HTTP/1.0 404 not found" is returned by the HTTP Server. The load balancer then logs the error falls back to step number 2.

6. The request can be served. The output is formatted into the markup language supported by the load balancer and returned in the HTTP response.

7. The load balancer validates the information returned in the response.

8. Information returned was improperly formatted. Log the error and discard the response. Fall back to step 2.

9. Information passed validity checks. Self configure the server parameters.

10. Bring server online and fall back to step 2.

Load Balancer

Servers

① ② ③ ④
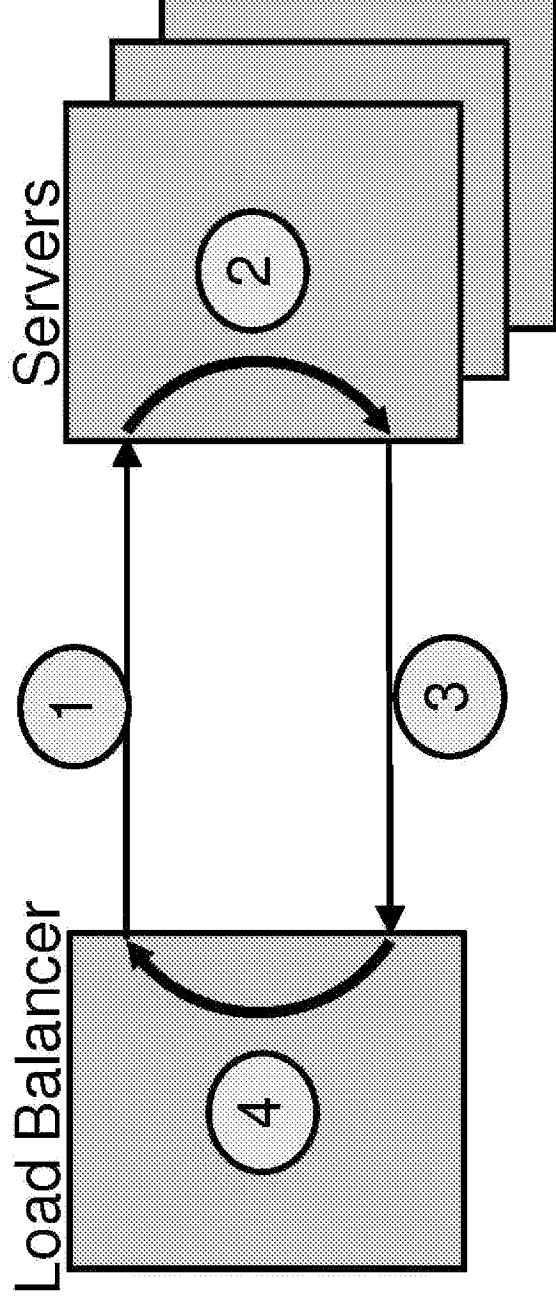
Assumptions

* Load Balancer and Servers can communicate.
* Servers contain available configuration information.
* Steps are repeated periodically.

Steps

4 Ask for the configuration information from the server.
5 Gather the information within the server.
6 Return the information to the load balancer.
7 Dynamically configure the load balancer based on downloaded information.

Hi Craig and Bob - I think I have a basic understanding of WHAT the
invention is now. What I now need from one or both of you is an
explanation
of HOW you do it. The easiest way I know to do this is for you to
prepare
one or more flow charts illustrating the steps that are taken to
configure
the load balancer according to your invention, with a written
explanation of
each step. The idea of the flowcharts and description thereof is to
provide
a programmer, who would be writing a program to perform your invention,
with
a functional description of the steps that his program must perform.
 Armed
with this functional description, any programmer should be able to
develop
one or more programs to satisfy the operations described in the
flowcharts.

Ideally you would correlate the flowcharts/description with the Figures
in
your presentation materials. These figures illustrate the devices (in
block-diagram format) that are used in connection with your invention,
and
if the descriptions in the flow chart boxes can be correlated to the
block
diagrams (e.g., "First, the Load Balancer sends a "get config" request
to
Server 1 and Server 2. This is done to ....." etc) I think we will be
in
very good shape for completing this application.

Thanks, and have a great weekend.

Mark

****
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Synnestvedt & Lechner LLP
2600 Aramark Tower
1101 Market Street
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EXHIBIT E (2 PAGES)

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PAUL SYNNESTVEDT (1897-1950)
HARVEY L. LECHNER (1909-1954)

OF COUNSEL
MARTIN F. SAVITZKY

June 28, 2001

Jeanine S. Ray-Yarletts, Esq.   **VIA AIRBORNE EXPRESS**
Attorney - Intellectual Property Law
IBM Corporation
Dept. T81/Building 503-3
3039 Cornwallis Road
P.O. Box 12195
Research Triangle Park, NC 27709

    Re: DYNAMIC HTTP LOAD BALANCING METHOD AND APPARATUS
        IBM Client No. RSW9-2000-0124-US1
        S&L File No. P-24,352

Dear Jeanine:

I have finally received comments back from the inventors in connection with the above-identified patent application which was sent to them for review on May 10, 2001. Their proposed revisions were minimal. I have incorporated them fully into the application. Accordingly, I submit herewith a final draft of the application for your review and comment/approval.

I am copying this letter to the inventors along with the appropriate declaration and assignment papers (which I will instruct them to sign and return to me if you require no further revisions).
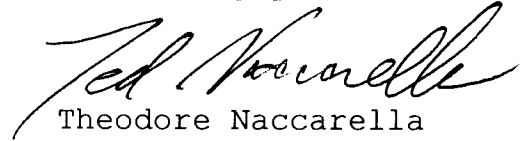
Please get back to me with your comments and/or approval to file at your earliest convenience.

Jeanine S. Ray-Yarletts, Esq.
Page 2

        I look forward to hearing from you soon.

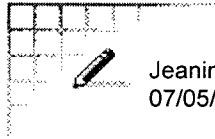   Very truly yours,

                            Theodore Naccarella

TXN/dsg
cc: Craig Lanzen (via Airborne Express)
M:\TNaccarella\CLIENTS\IBM\24352\Letters\Ray-Yarletts 6-28-01.wpd

EXHIBIT F (1 PAGE)

Jeanine Ray
07/05/2001 03:19 PM

To: TNaccarella@synnlech.com
cc: Dianne Lane/Raleigh/IBM@IBMUS
From: Jeanine Ray/Raleigh/IBM@IBMUS
Subject: RSW9-2000-0124-US1 S&L P-24,352

Ted,

      I have no further comments. Please file asap. Thank you!

Jeanine S. Ray-Yarletts
Software Group Intellectual Property Attorney
Phone t/l 441-2541; external (919) 543-2541
PREPARED BY IBM ATTORNEY -- CONFIDENTIAL AND PRIVILEGED -- DO NOT FORWARD OR
DISTRIBUTE WITHOUT PERMISSION
**** See our legal website at http://w3legal.raleigh.ibm.com ********